

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
21 July 2005 (21.07.2005)

PCT

(10) International Publication Number  
**WO 2005/067142 A1**

(51) International Patent Classification<sup>7</sup>: H03H 11/02.  
H04L 12/28, 12/02, 29/02, 5/14

(21) International Application Number:  
PCT/CA2005/000005

(22) International Filing Date: 6 January 2005 (06.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2,454,988 7 January 2004 (07.01.2004) CA

(71) Applicant (for all designated States except US): ALSTOM  
CANADA INC. [CA/CA]; 1010, Sherbrooke West, Suite  
2010, Montréal, Québec H3A 2R7 (CA).

(72) Inventor; and

(75) Inventor/Applicant (for US only): BEAUCAGE, Jean  
[CA/CA]; 84 Daniel, LeGardeur, Québec J5Z 3P8 (CA).

(74) Agent: ROBIC; Centre CDP Capital, 1001, Victoria  
Square-Bloc E- 8th floor, Montreal, Québec H2Z 2B7  
(CA).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HN, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

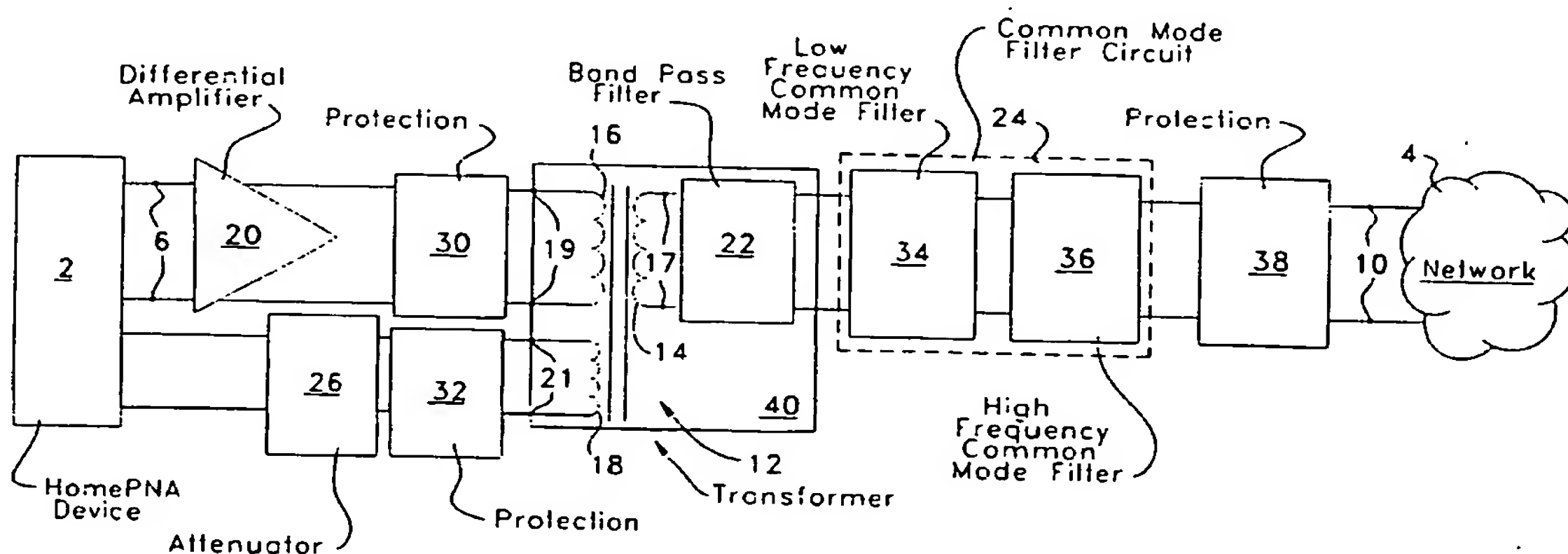
(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: RUGGEDIZED ANALOG FRONT-END FOR A NETWORK COMMUNICATIVE DEVICE IN A RAILWAY-LIKE ENVIRONMENT



(57) Abstract: A ruggedized analog front-end for interconnecting a network communicative device to a two-conductor based network operable in a train-like or other harsh environment. The front-end has a coupling circuit having first and second coupling channels providing isolation, impedance matching and energy transfer between a common mode filter circuit connectable to the two-conductor based network, and an amplifier and an attenuator respectively connectable to output and input of the network communicative device. The front-end has a power supply circuit for operative power supply of electronic components of the analog front-end.